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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,162	12/15/2003	Ji Yong Park	1514.1030	2087
49455	7590	07/05/2007		
STEIN, MCEWEN & BUI, LLP			EXAMINER	
1400 EYE STREET, NW			LANDAU, MATTHEW C	
SUITE 300				
WASHINGTON, DC 20005			ART UNIT	PAPER NUMBER
			2815	
			MAIL DATE	DELIVERY MODE
			07/05/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/734,162	PARK ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Matthew C. Landau	2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2007.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 May 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/1/07, 5/16/07</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

The drawings were received on May 1, 2007. These drawings are acceptable.

### ***Information Disclosure Statement***

The information disclosure statement filed May 16, 2007 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered. No translation or explanation of relevance of document "AK" has been provided.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki et al. (US Pat. 5,858,823, hereinafter Yamazaki).

Regarding claims 1, 4, 7, and 10, Figures 3A-4D of Yamazaki disclose a thin film transistor (TFT) comprising an offset region 110 and a plurality of primary crystal grain

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boundaries 100, wherein the TFT is formed so that the primary crystal grain boundaries of a polysilicon substrate are not positioned in the offset region. Regarding claim 7, Yamazaki discloses the TFT is used in a liquid crystal display (col. 17, lines 54-57).

Regarding claims 2 and 8, Figure 4B of Yamazaki discloses a width of an activation layer 106 including the offset region is shorter than a distance between the primary grain boundaries 100.

Regarding claims 3 and 9, the limitation “the polysilicon substrate is formed by sequential lateral solidification (SLS)” is merely a product-by-process limitation that does not structurally distinguish the claimed invention over the prior art. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966.

Regarding claims 5 and 11, Figures 3A-4B of Yamazaki disclose the primary crystal grain boundaries are perpendicular to a current direction between source and drain regions of the TFT.

Regarding claims 6 and 12, Figure 4B of Yamazaki discloses at least part of the primary crystal grain boundaries are inclined to a current direction between active source and drain regions of the TFT at an angle between -45 degrees and 45 degrees. Note that the primary grain boundaries 100 shown in Fig. 4B form an approximately circular shape. Therefore, at least part of that circle is at the required angle relative to the current direction.

Claims 1, 3-5, 7, 9-11, 13, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Oka et al. (US Pat. 6,184,541, hereinafter Oka).

Regarding claims 1, 4, 5, 7, 10, 11, 13, and 14, Figures 1a and 1b of Oka disclose a TFT comprising a light doped drain (LDD) region (portion of region 4 included in width “d”, on the right side) and a plurality of primary crystal grain boundaries 2 (boundaries perpendicular to current direction), wherein the TFT is formed so that the primary crystal grain boundaries of a polysilicon substrate 3 are positioned in channel 8, source 6, and drain 7 regions, but not positioned in the LDD region. Regarding claims 4, 7, 10, and 14, Oka discloses the TFT is used in an LCD display. Note that the portion of region 4 denoted by the width “d” can be considered the LDD region, since the other portion of region 4 was doped with additional impurities during heat treatment (col. 3, lines 60-66). Therefore, the other portion of region 4 would no longer be considered “lightly doped”. Also, the portion denoted by width “d” could at least be considered an “offset region”.

Regarding claims 3 and 9, the limitation “the polysilicon substrate is formed by sequential lateral solidification (SLS)” is merely a product-by-process limitation that does not structurally distinguish the claimed invention over the prior art. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966.

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***Response to Arguments***


Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Landau whose telephone number is 571-272-1731. The examiner can normally be reached on 9:00AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Parker can be reached on 571-272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Matthew C. Landau  
Primary Examiner  
Art Unit 2815